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September 23, 2008

Mr. Kenneth P. Parr
Senior NEPA Specialist
Tennessee Valley Authority
1101 Market Street, LP 5U
Chattanooga, TN 37402-2801

Subject: EPA NEPA Review Comments on TVA's DEIS for "Mountain Reservoirs Land Management Plan"; Chatuge, Hiwassee, Blue Ridge, Nottely, Oconee 1, 2 & 3, Apalachia, and Fontana Reservoirs; Fannin, Towns, and Union Counties, GA; Swain County, NC; Polk County, TN; CEQ #20080309; ERP #TVA-E65082-00

Dear Mr. Parr:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject Tennessee Valley Authority (TVA) Draft Environmental Impact Statement (DEIS) in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. In this DEIS, TVA proposes a Mountain Reservoirs Land Management Plan (MRLMP) for managing the above-referenced nine reservoirs in Georgia, North Carolina and Tennessee over the next 10 years. Overall, about 6,222 acres would be included in the planning process. Of these, about 5,146 acres are already committed lands while about 1,076 acres (17%) remain uncommitted. Currently, committed uses are not proposed to be changed by the MRLMP (pg. 18) and include landrights granted by TVA for easements, transmission lines, dam reservations and other properties.

Background

With the exception of Fontana Reservoir, all mountain reservoirs are currently managed under the Forecast System developed in 1965. Unless TVA selects Alternative A for no action, an MRLMP would replace the Forecast System pursuant to one of two presented action alternatives – Alternative B or C. At this time, TVA has not identified a NEPA preferred alternative (pg. 36) and requests public input. In essence, Alternative B would allocate more land parcels to the natural resource and sensitive area zones while Alternative C, although similar to B, would allocate 105.4 acres differently. Specifically, C would allocate 27.2 acres to the industrial zone (Zone 5) and 78.2 more acres to the developed recreation zone (Zone 6), instead of all 105.4 acres remaining allocated to the natural resource conservation zone (Zone 6) under Alternative B. TVA's re-allocation for these 105.4 acres to Zones 5 and 6 for Alternative C was offered for consideration in this EIS in response to public comments/requests. The seven specific allocation zones for both Alternatives B and C are as follows:

- * Zone 1 – Non-TVA Shoreland
- * Zone 2 – Project Operations
- * Zone 3 – Sensitive Resource Management
- * Zone 4 – Natural Resource Conservation
- * Zone 5 – Industrial
- * Zone 6 – Developed Recreation
- * Zone 7 – Shoreline Access

Noteworthy public trends regarding the preferred management of mountain reservoir lands were expressed during TVA's scoping process (Table 1-3: pg. 9). The participating public generally felt that the current land allocation for the mountain reservoir area fell in the "about right amount" category, i.e., "the majority of the 473 respondents indicated a general preference for no changes in existing land use" (pg. 8). Exceptions to this trend were strong preferences for "mountain bike trails" (324 respondents) and "hiking trails (dirt)" (228 respondents). Moreover, there was a strong belief (206 respondents) that there was "too much land" already dedicated to "industry/light manufacturing". Similarly, 97 respondents felt that the current industrial land use was in the "about right amount" category, while only 7 respondents voted for the "need more land" category and 59 respondents had "no opinion". Based on these results, it appears that the responding public believes that the existing land use should generally not change (particularly to industrial/light manufacturing land use) with the primary exception of adding more biking/hiking trails.

Alternatives

EPA believes that updating the present Forecast System is appropriate for the management of mountain reservoirs and therefore does not favor Alternative A for no action. We also prefer action Alternatives B and C over A because B and C re-allocate several acres under the Forecast System from industrial and natural resource conservation to more protective natural resource protection and sensitive resource management (pg. 23). However, although Alternative C has several features similar to B, we prefer B from a water quality perspective (see further discussion below). In contrast to Alternative C, Alternative B proposes no allocation to industrial shoreline development. For the present planning, specific changes between B and C would only occur in the Chatuge Reservoir in Georgia and the Hiwassee Reservoir in North Carolina. As summarized in the DEIS (pg. 24) and below, 105.4 acres of land allocated to the conservation of natural resources (Zone 4) in Alternative B would be re-zoned to either industrial use (Zone 5) or developed recreational use (Zone 6) for the Chatuge and Hiwassee Reservoirs:

Chatuge Reservoir (GA):

- Parcel 10 (27.2 ac) to Zone 5 (apparently new electric cooperative project)
- Parcel 52 (7.4 ac) to Zone 6 (apparently new boat launch, fishing piers, trails)¹
- Parcel 77 (66.4 ac) to Zone 6 (apparently new multiple field sports complex)

¹ Parcel 52 also includes a proposed 2-acre substation site already being considered prior to the current planning process.

Hiwassee Reservoir (NC):

Parcel 34 (2.4 ac) to Zone 6 (apparently new wade fishing area)

Parcel 49 (2.0 ac) to Zone 6 (extension of existing Heritage Riverwalk Trail)

General Reservoir Management Comments

Presuming that Zones 1, 2 and 7 are a given for TVA reservoirs, Zones 3-6 would allow some flexibility for re-allocation. Of these, EPA prefers Zone 3 to protect wetlands, habitat and other sensitive areas; Zone 4 to protect wildlife, shorelines and other natural resource areas; and, to a lesser degree, Zone 6 for public recreation of the reservoir resource. For Zone 6, we recommend that the level of developed and dispersed recreation be somewhat tempered to ensure or enhance good water quality as well as other natural reservoir features such as the preservation of the ambient noise environment (e.g., minimize recreational noise from jet ski and power boat sources). We also believe that shoreline recreation be water-dependent or water-related (e.g., water access needs, marinas, fishing, swimming, etc.) and sited appropriately (e.g., marinas sited only in well-circulated areas – rather than dead-end embayments or branches – that require little or no dredging, and water access sites located only in areas without fringe wetlands). As a rule, the emphasis of such projects should also be on the expansion of existing facilities rather than the development of greenfield sites.

While we understand TVA's mandate for continued economic growth of the Tennessee Valley, we believe that industrial use of shorelands (Zone 5) should be limited to appropriate industrial/commercial use that requires water access (e.g., barge terminals that serve "clean" cargo materials such as shipment of grain, timber, rock, etc. that have a low potential for water quality degradation). Residential land use along shorelines should also be restricted to reduce potential runoff and septic tank seepage into reservoirs. Existing residential plots should also retain natural shoreline buffer strips. Overall, EPA believes that actions within all zone designations should minimize shoreline disturbance in terms of development (clearing, water access, retainer walls, piers and boathouses, runoff and point source discharges, etc.). As such, we appreciate TVA's development and implementation of its Shoreline Management Policy (SMP) and Clean Marinas Initiative.

Despite its significance, it should be noted that shoreline management is the last buffer zone to preserve the water quality of a reservoir. Therefore, in addition to shoreline management, back-lying areas such as shorelands and the watershed in general should also be managed. This is particularly important for mountain reservoirs since they are often rocky, steep-sloped and vulnerable to receiving runoff laden with sediments and/or other pollutants from development or agricultural fields. While TVA may not own these shorelands, TVA has an excellent opportunity to participate as a prominent community stakeholder in the development and implementation of watershed management plans for the mountain reservoirs. Based on previous NEPA reviews of other TVA reservoirs, we assume that TVA is already active in this regard. The Final

EIS (FEIS) should address this and discuss the water quality benefits of managing shorelands and watersheds.

NEPA Process

Parcel 10 Re-Zoning

Based on Table 2-8 (pg. 24), Parcel 10 of the Chatuge Reservoir was requested for re-zoning by “BRMEMC” for industrial use. Appendix B (pg. 292) defines “BRMEMC” as the Blue Ridge Mountain Electric Membership Corporation and Chapter 1 (pg. 10) had previously defined BRMEMC for a 2-acre substation project being considered prior to and independent of the planning process. Appendix B (pg. 295) also lists the public hearing request for re-zoning and that that request was supported by another hearing respondent.

Although the requester for re-zoning Parcel 10 was identified, EPA is more concerned that the type of industrial project – and its impacts – are not clear or evaluated in the DEIS. Presuming that the BRMEMC cooperative would be interested in siting conventional power cooperative facilities at Parcel 10 (e.g., substation, transmission line, etc.), it remains unclear why such potential uses would require a shoreline location and a fairly large amount of land (27.2 ac). It is also unclear if such a power project would induce additional power needs and secondary developmental impacts along the reservoir.

From a NEPA perspective, disclosing the nature of the requested industrial use of Parcel 10 and its predicted impacts would have been appropriate in the DEIS for impact documentation. However, it is possible at this time that TVA may not be fully aware of the specific project that BRMEMC is proposing since page 81 states that “[d]epending on the type of industry, Alternative C may have more potential noise impacts on Chatuge than Alternative B.” Nevertheless, if Alternative C is pursued in the FEIS, the FEIS should provide additional disclosure and evaluation of project impacts for Parcel 10.

Future Re-zoning Requests

Beyond the implementation of the proposed MRLMP with its five public re-zoning requests, we expect (based on previous EPA reviews of TVA reservoir land management plans) that future re-zoning requests will likely also be made of TVA over the 10-year term of the MRLMP. As referenced above, we already note (pg. 10) that due to a power need projected for June 2009, a 2-acre portion of Parcel 52 of the Chatuge Reservoir considered in the current EIS, “...is being considered for use as a substation site and is being evaluated independently from the current land planning effort.” This 2-acre parcel would presumably also be re-zoned for industrial use (Zone 5). We suggest that the FEIS discuss what future requests might be expected and TVA’s policy in this regard.

We request that any future re-zoning requests that may be considered by the TVA Board of Directors be scrutinized to benefit reservoir water quality. We are encouraged (pg. 19) that TVA would “consider changing a land use designation outside the normal planning

process only for water-access purposes for industrial or commercial recreation operations on privately owned back-lying land or to implement TVA's SMP." We also understand, at least for the present EIS (pg. S-3), that "TVA's Land Policy does not allow for additional land to be provided for residential use, and therefore, the amount of shoreline available for residential use will not change as a result of the land planning process." Finally, we note (pg. 78) that "...future proposed actions are subject to environmental review..."

Regarding environmental reviews, it is unclear if these would be internal to TVA or if TVA proposes additional NEPA documentation for each request that would tier off the current EIS. Page 87 refers to future NEPA reviews in stating that "[p]otential future development proposals would be reviewed under NEPA and would require the use of BMPs." In contrast, TVA's mitigation commitments (pg. 37) for the present requests in the current planning process include apparent internal TVA environmental reviews for air quality effects "prior to approving any industrial development of this land." The FEIS should clarify if the environmental reviews are internal to TVA or are required by NEPA.

Overall, we recommend that only reasonable requests that are water-dependent or water-related and are typically expansions of existing projects (as opposed to greenfield areas) be considered for potential approval. Any industrial re-zoning should also largely be limited to barge terminals for cargo having a low potential for water contamination. Non-water-dependent but potentially necessary industrial/commercial facilities, such as power facilities, should be sited away from shorelines to the extent possible. If NEPA does not apply, potential future re-zonings should also require a TVA environmental review once requested projects are specifically defined.

Water Quality Concerns

Industrial Use

EPA has potential water quality concerns for the re-zoning of Parcel 10 in the Chatuge Reservoir to industrial use (Zone 5). From a practical perspective, we recognize that the proposed Zone 5 acreage (105.4 ac) is a relatively small footprint compared to the overall acreage being reviewed (6,222 ac). It is also only one parcel of land (Parcel 10) on one of the nine reservoirs (Chatuge Reservoir). However, as the only parcel that would be allocated to industrial use in the present planning process, it could set a precedent for industrial use along mountain reservoirs. Based on our review of previous land management plans for other TVA reservoirs, we also assume that TVA would be open to considering future public requests for re-zoning for development under the proposed MRLMP, which may or may not expand on this precedent for re-zoning to industrial use. We already note that the requested 2-acre substation noted above is also for industrial use.

Although the requested industrial use for Parcel 10 along the shoreline of the Chatuge Reservoir need not have significant water quality impacts, the proposed use of these 27.2 acres is not clarified in the DEIS such that the potential for water quality issues

exists. Based on Figure 2-1, Parcel 10 is situated in an embayment area (Wood Creek) where circulation may be somewhat limited. The FEIS should discuss if the proposed industrial use would entail effluents and/or runoff and if circulation patterns near Parcel 10 would allow for adequate flushing and assimilation of such effluents. For example, where is the original streambed (mainstem) in the reservoir relative to Wood Creek and does the feeder creek entering Wood Creek near the “Otis Burdette” parcel (Fig. 2-1) have enough annual inflow to generate flushing?

Even without any potential industry being sited at Parcel 10, we note that Chatuge Reservoir has existing water quality concerns. Currently (and typically since 1998) TVA rates the ecological health of the Chatuge Reservoir as “poor” (pg. 106), which includes low 2006 water quality ratings in two portions of the reservoir for dissolved oxygen (“poor”), chlorophyll (“poor” and fair”) and sediment (“fair” and “poor”) (pg. 107). Chatuge also has a growing number of shoreline residential plots that are being developed, which could exacerbate these water quality problems. Specifically, the reservoir not only has the greatest percentage (57%) of shoreline open for residential development of all nine mountain reservoirs, it also has a large percentage (74%) of open shoreline that is already developed (pg. 42). Moreover, it is unclear if the remaining undeveloped residential plots would be developed according to TVA’s SMP – which promotes water quality – or if they would be grandfathered (e.g., parcels were platted prior to the SMP policy, but have not been developed yet). As such, potential additional residential development could continue the water quality problems of the Chatuge Reservoir such that a re-zoning of Parcel 10 to an industrial use from a natural resource conservation use seems inappropriate at Chatuge Reservoir. Cumulative water quality effects from industrial and residential development on a reservoir already known to have poor ecological health with fair-to-poor water quality could therefore result. Although the DEIS (pg. S-8) does not predict a change in ecological health with Alternative C, any proposed re-zonings for Chatuge Reservoir should arguably be designed to improve water quality rather than only maintain it.

Beyond water quality concerns, the development of Parcel 10 would require the logging of high-quality “old growth” habitat (pg. 51) and the resultant displacement of its associated wildlife. Such wildlife could potentially include the federally-protected Indiana bat that ranges in the mountain reservoir project area (pg. 54).

Recreational Use

Some of Alternative C’s proposed re-zoning changes from Zone 4 (Natural Resource Conservation) to Zone 6 (Developed Recreational) are also of water quality concern to EPA. Overall, as discussed above, EPA suggests that shoreline recreational projects be water-dependent or water-related, and be expansions of existing recreational sites as opposed to new (“greenfield”) projects. Based on this guideline, our concerns are primarily for Parcel 77 (multiple sports field complex) which is proposed for a less water-dependent use than the present dispersed recreation at the site (including bank fishing; pg. 87). Moreover, as indicated in the DEIS (pg. 92), there are also “uncertainties regarding need” associated with this proposal since it already serves as

a recreational site. Secondly, Parcels 34 (wade fishing) and 52 (boat launch) both appear to be greenfield projects even though they are water-dependent activities. Only Parcel 49 (extension of an existing riverwalk) appears to be both water-related and not a new site. Moreover, the riverwalk is only a scenic appreciation of reservoir waters that need not disturb its water quality.

Beyond water quality concerns, Parcel 77 also contains a stand of Butternut trees which is a species of Special Concern in Georgia (pg. 97).

A Prospective “Alternative D”

Given EPA’s potential water quality concerns for the proposed re-zoning to industrial land use (Zone 5) and, to a lesser degree, to developed recreational land use (Zone 6), we find that the presented action alternatives (B&C) are unnecessarily constrained. That is, presenting decision-makers with an additional alternative(s) that provides for some re-allocation in areas where the impacts are expected to be minimal while avoiding development in areas with higher likely impacts, could lead to better decisions by not imposing an “all or nothing” type approach (i.e., B vs. C). Specifically, while EPA still prefers Alternative B, another alternative could be presented in the FEIS that would modify B to a lesser degree than Alternative C. For example, a prospective “Alternative D” might only propose the re-zoning for Parcel 49 since it is an expansion of an existing riverwalk as opposed to an industrial re-zoning or a new developed recreation site. Other options may be possible depending on the type of parcel and its impacts. The goal of such an intermediate alternative between B and C would be to minimize environmental impacts (although not to the extent of B) and maximize recreational benefits (although not to the extent of C).

Summary

EPA supports TVA’s decision to upgrade its mountain reservoir management system. TVA’s search for an appropriate MRLMP alternative is consistent with its environmental stewardship of the Tennessee Valley. Overall, EPA prefers Alternative B over C since it avoids the re-zoning of natural resource lands (Zone 4) to industrial lands (Zone 5) and limits the amount of re-zoning from natural resource and sensitive area lands (Zones 3 & 4) to developed recreation (Zone 6). In general, EPA’s reservoir management strategy is based on water quality preservation or enhancement, which translates into limited industrial and developed recreational use along reservoir shorelines. In general, shoreline development should be water-dependent/water-related and be expansions of existing developments as opposed to new sites.

Although the requested industrial use for Parcel 10 along the shoreline of the Chatuge Reservoir need not have significant water quality impacts, the FEIS should better clarify the actual power company project being proposed for Parcel 10 and its potential impacts. This discussion should address overall project need, the need for a shoreline versus a more upland location, potential effluents from the industrial project, induced impacts resulting in further development along the reservoir, as well as the project’s cumulative

impacts to shoreline, shoreland and watershed resources. The decision-making process should also consider that the Chatuge Reservoir is already in overall poor ecological health, including only fair-to-poor water quality. Accordingly, any projects considered for Chatuge should be designed to preserve or enhance its water quality as opposed to potentially degrading its water quality.

Regarding the four proposed re-zonings for recreational use in the Chatuge and Hiwassee Reservoirs (Parcels 34, 49, 52 & 77), we find that their need (77), need for a shoreline location (77), and need for a new as opposed to greenfield site (34 & 52) should be reconsidered from a water quality perspective. In contrast, Parcel 49 appears to be a reasonable project since it would expand an existing riverwalk for scenic appreciation of reservoir waters that need not disturb its water quality. This project would also be consistent with TVA's mandate for public recreational development and somewhat consistent with the public's scoping preference for more trails. As part of its decision-making process, TVA may also wish to consider the addition of another action alternative (Alt. 'D') that is bracketed by Alternatives B and C. The goal of such an intermediate alternative would be to minimize environmental impacts (although not to the extent of B) and maximize recreational benefits (although not to the extent of C). The specific parcels incorporated within such an Alternative D would depend on their type and impacts, but might include Parcel 49 currently not proposed for Alternative B.

EPA DEIS Rating

We rate this DEIS as an "EC-2" (i.e., Environmental Concern, additional information requested). We base this rating on our concerns for the potential environmental impacts from the re-zoning proposals in Alternative C. We also request that additional information be provided in the FEIS, such as the kind of industry proposed for Parcel 10 and its potential water quality and other impacts.

EPA appreciates the opportunity to review this FEIS. Should you have questions on our comments, please contact Chris Hoberg of my staff at 404/562-9619 or hoberg.chris@epa.gov.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

DETAILED COMMENTS

* Wetlands – We note that the proposed re-zoning requests for Alternative C and all other presented alternatives would not result in impacts to wetlands (pp. S-6, 33). While a conclusion of no project impacts on wetlands is commendable, Alternative B would nevertheless be preferable since it would allocate more acreage to Zone 3 and therefore not only not impact, but also protect a greater number of wetland acres than Alternative C. Also, since pocosin (perched) wetlands are often found in mountainous areas, the FEIS should indicate if any such wetlands are in the area and if they would be impacted by any of the alternatives.

* Environmental Reviews – As discussed in the cover letter, TVA’s proposed mitigation commitments for this EIS include a TVA environmental review “prior to approving any industrial development of this land” for air quality effects (pg. 37). It is unclear why such a review would be limited to air quality effects given that water quality, habitat loss and other concerns could also be affected by re-zonings to industrial or recreational land use.

* Climate Change – We appreciate the reference to “global climate change” on page 49. The reference suggests that old growth stores carbon that “...would otherwise contribute to global climate change (Salk 2005).” We agree. Studies are now showing that old growth forests are not carbon neutral. Moreover, the cutting of old growth would release large amounts of stored CO₂.²

* Cumulative Impacts – Section 3.1.3.2.2 indicates that because Alternative C would only result in land use changes on five parcels, wildlife populations in the area would not be cumulatively impacted. While this may be the case, an explanation based solely on the relatively limited size of the modifications proposed does not fully address the potential for the action to result in cumulative impacts to wildlife in the project area. The FEIS analysis should include a discussion of any reasonably foreseeable future actions (federal or non-federal) which may, when considered in addition to the proposed changes discussed therein, combine to result in a cumulative impact.

* Land Use Agreements – Table 3-3 (pg. 43) provides information on land use agreements applicable to the TVA parcels at issue in the DEIS. One of the categories of land use agreements listed is “sufferance agreements.” This presumably refers to agreements between TVA and other parties to allow those other parties to occupy TVA land without otherwise holding express property rights thereto. It appears that the table accounts for these agreements and their corresponding acreages twice (once under the “Project Operations” subheading, and once under the “Other” subheading). If this is the case, the table should be corrected in the FEIS to reflect the accurate number of

² *Old Forests Help Curb Global Warming Too: Study*. September 10, 2008. Article at: http://news.yahoo.com/s/afp/20080910/sc_afp/scienceenvironmentclimatewarmingforests

agreements and acres; if not, the table should provide why the category is represented twice.

* Public Scoping Trends – The public expressed a strong preference for additional biking/hiking trails (pg. 9). It is unclear if the requested re-zoning for Chatuge and Hiwassee Reservoirs offered such additional trails other than Hiwassee Parcel 49 and Chatuge Parcel 52 (pg. 24). EPA will defer to TVA in this regard.

* Editorial Comments – Table 2-10 (pg. 33) provides a summary of environmental impacts for Chatuge and Hiwassee Reservoirs. Some of the information provided in this table is inconsistent with information provided in other portions of the DEIS.

- *Wetlands*: Under the “Wetlands” row in Table 2-10, the field for “Alternative C” provides that “No wetlands [are] associated with... Hiwassee Parcel 34.” This is consistent with a description of the parcel provided on page 122. However, at other points in the DEIS (pg. 10 & 130), Parcel 34 is described as containing “a narrow fringe riparian emergent wetland.” Although this inconsistency should be addressed in the FEIS, we assume that wetlands exist in the project area but that the proposed re-allocations would not impact those wetlands.
- *Threatened and Endangered Species*: The “Alternative C” column in Table 2-10 provides that “no adverse affects on listed plants or terrestrial animals are anticipated” on the Chatuge and Hiwassee reservoirs. However, Section 3.1.4.2 (pg. 59) provides that under Alternative C, Parcel 10 (which contains habitat suitable for bald eagles and Indiana bats) could be impacted by the anticipated subsequent industrial development of the tract. To clarify any adverse project impacts to federally-protected species, we recommend additional coordination with the U.S. Fish and Wildlife Service, particularly for proposed re-allocations that may require land clearing of suitable endangered species habitat, such as Parcel 10. In addition, Table 2-10 should indicate whether the phrase “Threatened and Endangered Species” refers to only federally-listed species or to both federal and state listed species. The bald eagle discussion in Section 3.1.4.1 (pg. 58) of the DEIS should be corrected to reflect the current listing status of bald eagles in Georgia. Pursuant to Georgia’s Endangered Wildlife Act, bald eagles are currently listed as threaten not endangered (see GA Code § 391-4-10-.09(2)(n)).